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ABSTRACT

While the left hemisphere of the brain is responsible for logical and verbal activity, the right brain is the center of much of human feeling and emotion. Its vision is holistic rather than segmented or compartmentalized. Although schools today are geared almost exclusively to training the brain's left hemisphere, fantasy literature can provide children with the opportunity to engage the whole brain. As fantasy demands visualization, it immediately engages the right hemisphere. Having developed a strong background in fantasy literature, most children begin school with a good base on which teachers can build. In the early grades, fairy tales, fables, and myths should make up the storytelling and reading activities. During the middle school or junior high school years, myths such as the Icarus or Hercules legends will interest students, and as they pass through various stages of initiation the Arthurian legend will appeal to them. Science fiction is another popular type of fantasy. The study of such literature can jar students out of linear thinking, help them to synthesize ideas, and encourage them to think holistically. The teacher who is aware of how the two hemispheres of the brain operate is in an excellent position to help students achieve the kind of independent and original thinking that will result in fuller and more productive lives. (HOD)

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FANTASY AND THE BRAIN'S RIGHT HEMISPHERE

by

R. BAIRD SHUMAN

Fantasy comes from a Greek word, phantazein, that means to make visible. The world of fantasy is the world of images and forms, the world of the active imagination, the world in which the verbal and the visual coalesce. At its best, fantasy commingles the activities of the left brain, which is dominant in most right-handed people, with those of the right brain, which is a stepchild of most current educational schemata and, indeed, of an age devoted to scientific inquiry and to a reverence for hard, measurable data.

Left Brain, Right Brain

The left brain, or more accurately, the left hemisphere of the brain, is the seat of human reason. It is responsible for logical and verbal activity in most people. It is rational and analytical, objective and linear. Scientific and mathematical detail are products of the left brain. Conventional schools emphasize the measurable, which is also the testable. They reward those who are dominantly left brained and not infrequently penalize those who are right brained--the dreamers, the intuitive, those who express themselves better through images than through words. To say that a student daydreams, a right brain activity, is not a compliment in most school settings.

The right brain is the center of much human feeling and emotion. Its vision is holistic rather than segmented or compartmentalized. It works more through synthesis than through analysis, and it tends to be analogical rather

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than logical. Its orientation is more to space than to time, and it relies heavily on the visual rather than on the verbal.

Ideally, the right and left brains, if trained equally, would, and in some people, do, function in a complementary manner. An Einstein is capable of mastering the mathematics and other left brain skills necessary for him to pursue physics in depth; however, at the moment when the "ah-ha" association is made, when the brain makes the intuitive leap beyond the boundaries and limitations of verbal and mathematical activity, the right brain comes into play and from it come the intuition and the synthesis that enable an Einstein or a Picasso or a Leonardo to rush beyond the commonplace and to leap boldly into new precincts of understanding.

Creative genius is often viewed with suspicion by the society that produces it. This is understandable. Most creative genius emanates from a hemisphere of the brain that lies underdeveloped in the vast majority of people. The products of this hemisphere are not linear and are not always explainable verbally. Therefore, a predictable time lag exists between the time a great artist or a great thinker demonstrates his or her greatness and the time the public at large is ready to accept it. Thinkers and experimenters at the beginning of a movement such as cubism or relativity or cybernetics are, in essence, creating new worlds, and a public mired in older and surer worlds usually fail not only to understand the new worlds but also may resist them strenuously and may denounce their creators.

Nevertheless, a society with no builders of new worlds, no shapers of new realities is a static society and will ultimately be a backward society. Those societies that cling most stalwartly and doggedly to their traditions are societies that, over the years, contribute decreasingly to human progress.

The Hemispheric Orientation of Today's Schools

Contemporary schools are geared almost exclusively to training the brain's left hemisphere. Early in their educations, children are made to know that reason is preferred over emotion, that analysis is rewarded over synthesis, that hard data are relied on to the exclusion of intuitions, that the objective is accepted while the subjective is suspect, and that the verbal or mathematical is deemed more valid than the spatial or the artistic. If youngsters come into the world, as Wordsworth suggested, "Trailing clouds of glory from God who is their home," the schools for the most part do the best job they can of dispersing those clouds of glory as early in a child's life as possible.

A friend of mine spent twelve years doing a longitudinal study of a group of youngsters who, in Grade One, were designated gifted. When his study was nearing its end, I asked him what salient conclusions he was arriving at. He responded by saying that several salient conclusions suggested themselves, but that, viewing the group of students he had come to know extremely well over the extended period of his study, one nagging question recurred. I asked him what that question was, and he told me, "I wonder where the wonder went?"

He went on to explain that most of the students in his sample were doing well in school, but they were aging at an early age. They were conforming to educational structures that they had short years before questioned. They were becoming linear in their thinking, they were rapidly becoming convergent thinkers rather than the independent, divergent thinkers that most of them seemed to be in the early years of the study. Something had happened to them, and my friend, Charles Keller, was troubled at what this something was.

That such was the case with this group of students is not to say that all students suffer the same fate; but it is undeniable that many do. The blame

cannot all be laid on the doorstep of the schools. The stages of development through which young people pass, as Piaget has pointed out in detail, are quite structured and predictable, and in some of these stages, regardless of what sort of education they are receiving, children part with some of their own personhood in order to blend more harmoniously into the group. They do not wish to stand out, so they conform. This phenomenon occurs in all cultures, and its occurrence is perfectly natural. It occurs within certain specific ranges of age with sufficient predictability that generalizations can be drawn from it.

Schools, however, often play along with these stages of development to the detriment of the full education of children. We could even now be training our young people more completely were we to understand more fully the ways in which the human brain, as a physical entity, operates. Increasingly, data are pouring in to suggest the specifics of how the brain functions, but not enough educators are paying heed to these data and making connections between them and their own professional pursuits.

What Do We Know About the Brain?

We know that the brain is, among other things, a great computer. It carries on, even in the youngest child, complex operations that are too sophisticated to be replicated in any existing manmade machine. Machines can make judgments based on facts, and computers can store systematically a staggering array of facts. However, many human judgments are based on facts combined with intuition, and thus far, intuition has not been programmable into a computer. For the time at least, people are the masters, computers the servants.

Neurophysiologists and psychophysiologists have shed a great deal of

light on how the brain works. In the last quarter century, with the help of highly sophisticated instrumentation, the medical profession has come closer and closer to pinpointing the exact functions of small sections of the brain that were understood in only the most general terms short decades ago.

It seems clear to most researchers, for example, that data fed into the mind will be stored and can be recalled, no matter how remote they are, through proper procedures. Few people exist who have not sought some specific detail from their memory banks only to find that they cannot call the detail forth. However, given time and given some diversion from the quest for this detail, suddenly it will come breaking through into the conscious mind, usually quite unexpectedly.

Karl Pribram, known for his extensive work with stroke victims who sometimes have one hemisphere of the brain almost destroyed, has reached interesting conclusions about the mind's ability to accommodate distractions and to be selective in what it processes. He notes that when the elevated railway along New York's Third Avenue was torn down, the police began to get late night telephone calls reporting strange occurrences such as suspected break-ins and suspicious noises. Pribram's research showed that the calls were clustered around the specific time that, prior to the dismantling of the elevated, the late night train passed. In this case, the unconscious was conditioned to a noise, and its absence caused restiveness.

Those who examine consciousness and human knowledge soon come to realize that everything we know of the so-called real world is known only after it passes through the human brain. Our <u>perception</u> of reality <u>becomes</u> reality for each of us, which is the reason that perceptions of identical objective realities will differ, why that which is beautiful to one person will be unappealing to another.

The Literature of Fantasy

Very young children, whose minds are being formed rapidly and whose capacity to learn is astounding, spend a considerable amount of their time fantasizing. Some may go so far as to have imaginary friends with whom they carry on extended conversations and to whose reality they are willing to attest. These friends usually disappear between the ages of three and four, but until their disappearance, they are real to the child.

During this same period, most children, regardless of their culture, are introduced to fantastic legends that carry a substantial cargo of the values of the group into which the child has been born. In western culture, the Mother Goose rhymes, fairy tales by the brothers Grimm, Charles Perrault, Hans Christian Andersen, Andrew Lang, and James Stephens, and Walt Disney fantasies comprise the nucleus of a child's introduction to literary fantasy. Imaginary characters people these tales--fairies, elves, leprechauns, dryads, sylphs, wood sprites, little people, and, in some tales from the Arab world, djinn. Many of the stories of these tales are wish fulfillment stories. Some of the characters in them have magical powers, exactly the kinds of powers most young children wish for when they are in trouble and want to escape it or when they are earthbound and fantasize about flying. Magical qualities confer power, and children, quite early in their development, feel the need for power as strongly as any need they experience.

Children hear rather than read their earliest tales. Often these tales are told to them, although some of them are read from books. In such reading, children receive their first informal reading instruction, learning quickly that pages are read from left to right, from top line to bottom--unless, of course, they are in a culture in which pages are read from right to left or are read vertically.

But regardless of how the tales are presented, they help children to build new worlds, and these new worlds are extremely visual ones. The underpinnings of literary understanding are being built in a child's earliest brush with literature, but also the child's imagination is being nurtured by this first real exposure to the literature of his or her world. Probably at this very moment if you think of a nursery rhyme--Jack and Jill, Little Miss Muffet, Jack and the Beanstalk--you think visually of it more than verbally. The right hemisphere is engaged immediately because it is predominantly in this hemisphere that the initial experience and impact of the story occurred.

Fantasy demands visualization; and in doing so, it engages the whole brain rather than just the dominant hemisphere. The earliest kinds of fantasy to which most children are exposed, fairy tales, also demand synthesis, an activity of the right brain. Bruno Bettelheim in The Uses of Enchantment recognizes that "the figures and events of fairy tales . . . personify and illustrate inner conflicts, but they suggest ever so subtly how these conflicts may be solved, and what the next steps in the development toward a higher humanity might be" (p. 26). In leading children to a resolution of the conflicts to which Bettelheim alludes, the fairy tale demands synthesis, demands that children make an association between the tale and their own inner conflicts and then act on the information to which making the association has led them.

For young children, this sort of synthesizing is extremely helpful because it allows them to act out their conflicts in imaginary ways. The earliest literature to which children are exposed is a literature of violence and often of cruelty. This is true whether one is talking about the fairy tales of the Brothers Grimm or of Hans Christian Andersen or whether one is talking about the imaginary world of Walt Disney cartoons. But this

violence and cruelty does children good rather than harm because, as Bettelheim concludes, "The fairy tale proceeds in a manner which conforms to the way a child thinks and experiences the world; this is why the fairy tale is so convincing to him" (p. 45). This acting out in literature becomes a safety valve rather than a stimulus to violent behavior in children.

Having developed a strong background in fantasy literature even as pre-schoolers, most children begin school with a good base on which teachers can build. In the early grades, fairy tales, fables, and myths should comprise the story telling and eventually the reading activities. Early on, probably as early as the fourth grade, selections from some of the world's greatest myths will intrigue students, although this early exposure should be selective and the selections short. For example, from the Odyssey, one might tell the story of the homecoming of the hero, Odysseus, after an absence of many years, and of how no human recognized him, but of how his old dog knew him instantly. This sort of selection will strike a responsive chord in young children, many of whom have pets and most of whom are fond of animals.

As students move into the middle school or junior high school years, they are much taken by fantasy. They devour comic books of the Superman variety, and it would be well for teachers at this stage to introduce them to other Superman-like literature such as the Icarus myth from classical mythology or the Hercules myth. Superman combines the desire to fly, a chief concern in the Icarus story, with superhuman strength, which could lead one to the Hercules story. The two classical myths have interesting correspondences with the Superman concept, with which any middle school student will be familiar. Students familiar with the mythic Superman will come to understand something about the universality and durability of mythic patterns

when they are led back to classical myths that correspond to modern ones. Therefore, it is well at this stage of students' development for teachers to pair traditional literature such as classical mythology with the popular mythic literature that is a part of their normal frame of reference.

During the middle school years, students are also passing through the period when initiation is much on their minds. They are achieving young manhood or womanhood. They are passing from one significant stage of their existence to another, and throughout time the rites of this passage have been chronicled in literature. At this stage, much Arthurian legend will appeal directly to students. Mircea Eliade writes, "The ordeal that the Heroes undergo in Arthurian Romance are innumberable--they have to cross a bridge that sinks under water or is made of a sharp sword or is guarded by lions and monsters.. . . All these scenarios suggest passage to the beyond . . . and when such journeys are undertaken by living beings, they always form part of an initiation" (Rites and Symbols of Initiationp. 125). The trials of Arthurian characters speak directly to teenagers, who are experiencing the same biological awakenings of the young Launcelot, for example, and who read with a deep sense of identification about such heroes who face their difficulties and prevail. Their trials are much more taxing than the trials of a typical teenager, and this overcoming of such substantial difficulty by mythic characters helps the teenager to develop a holistic view of his own situation and to deal with it better.

Students who have made the excursion into Arthurian Romance are nicely poised to begin Tolkien's Hobbit trilogy, a long work which most teenagers read voraciously with very little encouragement, and T. H. White's The Sword in the Stone. These are natural complements to an early exposure to Arthurian Romance and are popular with both male and female students.

Science Fiction

Another popular type of fantasy literature is science fiction. The commercial success of such recent films as Star Wars, Return of the Jedi, and E. T., whose $360 million gross in the first year and a half after its release makes it the biggest money making film in American history, clearly shows the great public enthusiasm for science fiction. Students read such literature with abandon, and they can easily be guided into reading the best of science fiction, books like Evgenii Zamytin's We, William Morris's News from Nowhere, and such fine writings of David Lindsay as Devil's Tor, The Haunted Woman, or The Violet Apple and the Witch. H. G. Wells should not be neglected, particularly The Time Machine, The Wonderful Visit, and The Invisible Man.

Because science fiction often deals directly with questions of governance in regions such as outer space, it can be a springboard into Utopian literature such as Plato's Republic, Thomas More's Utopia, or Samuel Butler's Erewhon or Erewhon Revisited. Certainly the teacher needs to build sequentially from recent fantasy literature up to some of the classics which educated people are expected to have read.

Why Fantasy Literature?

Fantasy literature can be justified as a part of the curriculum because so much quality literature falls under its rubric. It can be further justified because it is so natural a part of the literary background of nearly everyone and because it exists in so many forms that examples of it can be found to appeal to people at any level of literary development and sophistication.

Robert Crossley defends literary study and particularly the study of

fantasy by saying, "The goal of literature courses, including fantasy courses, is not interpretation but evaluation. Interpretation is merely an instrumental skill; we interpret so that we may see and enjoy and judge" ("Teaching the Course in Fantasy: An Elvish Counsel," Extrapolation, 22 Fall 1981 , p. 245). He goes on to contend that "the course in literary fantasy should widen the artistic horizons of our students . . . rather than rearrange the same old materials, studied from a supposedly fresh perspective" (p. 247).

It is my contention that a systematic study of fantasy literature can not only widen the artistic horizons of our students, as Crossley suggests, but that it can also help the mind to develop more fully than it will if it is not permitted the flights of fancy, the imaginative excursions that such literature provides. The study of such literature will jar students out of linear thinking, will help them to move towards synthesizing ideas, will encourage them to think holistically rather than compartmentally, and in so doing will communicate to them in positive ways that right brain orientation is valued equally with left brain orientation. The teacher aware of how the two hemispheres of the brain operate is in an excellent position to help students achieve a kind of mental growth that will result in their leading fuller and more productive lives characterized by independent and original thinking.